

IN THE CLAIMS

Please cancel claims 1-19 without prejudice or disclaimer, and substitute new claims 20-39 therefor as follows:

Claims 1-19 (Cancelled).

20. (New) A planar filter comprising a planar resonator comprising:

a conductive region supporting a first resonating mode propagating along a first conductive path, said conductive region being a smoothed contour shaped region; and

a conductor-free region made in said conductive region, said conductor-free region being a smoothed contour shaped region symmetrically disposed along a region axis forming an angle with respect to said first conductive path.

21. (New) The planar filter according to claim 20, comprising a second resonating mode propagating along a second conductive path, said second resonating mode being perpendicular to said first resonating mode, and said conductor-free region causing a perturbation of the symmetry of said planar resonator resulting in a frequency shift of said resonating modes and their mutual coupling.

22. (New) The planar filter according to claim 20, wherein said conductor-free region is made internally to said conductive region.

23. (New) The planar filter according to claim 21, wherein said conductor-free region is made internally to said conductive region.

24. (New) The planar filter according to claim 20, wherein said angle is an odd multiple of 45°.

25. (New) The planar filter according to claim 20, wherein said conductive region has a polygonal shape with edges significantly rounded.

26. (New) The planar filter according to claim 25, wherein each of said edges significantly rounded has a bending radius of about 10% to 30% of the mean value of the polygon side lengths.

27. (New) The planar filter according to claim 20, wherein said conductive region has an elliptical shape.

28. (New) The planar filter according to claim 20, wherein said conductor-free region is an elliptical shaped region having its major axis parallel to said region axis.

29. (New) The planar filter according to claim 20, comprising a dual mode planar resonator and at least a pair of planar conductive leads for coupling high frequency signals into and out of said dual mode planar resonator.

30. (New) The planar filter according to claim 29, wherein said at least a pair of planar conductive leads is capacitively coupled to said dual mode planar resonator through respective gaps.

31. (New) The planar filter according to claim 29, wherein said at least a pair of planar conductive leads is inductively coupled to said dual mode planar resonator through respective taps.

32. (New) The planar filter according to claim 20, wherein the conductive region is made of superconductor material.

33. (New) The planar filter according to claim 32, wherein said superconductor material is a high-temperature oxide superconductor.

34. (New) The planar filter according to claim 33, wherein said high-temperature oxide superconductor is represented by an yttrium family superconductor.

35. (New) The planar filter according to claim 33, wherein said high-temperature oxide superconductor is represented by a bismuth family superconductor.

36. (New) The planar filter according to claim 33, wherein said high-temperature oxide superconductor is represented by a thallium family superconductor.

37. (New) The planar filter according to claim 32, wherein said superconductor material comprises a metallic superconductor.

38. (New) A receiver front-end for use in a transceiver station of a wireless communication network, said receiver front-end comprising:

a first node coupled to a transceiver antenna;

a second node coupled to signal processing sections of said transceiver station; and

a receiving branch inserted between said first and second nodes, said receiving branch comprising a cryostat enclosing a low noise amplifier, said cryostat enclosing a planar filter made according to claim 20, and mutually connected in cascade arrangement to said low noise amplifier.

39. (New) A receiver front-end for use in a transceiver station of a wireless communication network, said receiver front-end comprising:

a first node coupled to a transceiver antenna;

a second note coupled to signal processing sections of said transceiver station;

a receiving branch inserted between said first and second nodes, said receiving branch comprising a cryostat enclosing a low noise amplifier, said cryostat enclosing a planar filter made according to claim 20, said planar filter being mutually connected in cascade arrangement to said low noise amplifier; and

a transmitting branch inserted between said first and second nodes, said transmitting branch comprising a transmitting filter made according to claim 20.